

(yyy) VOC Emissions from the Use of Miscellaneous Industrial Adhesives.

1. No person shall cause, let, permit, suffer or allow the emissions of VOC from the use of miscellaneous industrial adhesives with general adhesive application processes to exceed:

(i) 0.3 pounds per gallon of adhesive or adhesive primer, excluding water, when used with one of the following substrates: metal; wood.

(ii) 1.0 pounds per gallon of adhesive or adhesive primer, excluding water, when used with porous material (except wood) substrates.

(iii) 1.7 pounds per gallon of adhesive or adhesive primer, excluding water, when used with reinforced plastic composite substrates.

(iv) 2.1 pounds per gallon of adhesive or adhesive primer, excluding water, when used with flexible vinyl or rubber substrates.

(v) 2.1 pounds per gallon of adhesive or adhesive primer, excluding water, when used with a substrate not specified in paragraphs 1.(i) through 1.(iv).

2. No person shall cause, let, permit, suffer, or allow the emissions of VOC from the use of miscellaneous industrial adhesives with specialty adhesive application processes to exceed:

(i) 0.8 pounds per gallon of adhesive or adhesive primer, excluding water, when used with one of the following: structural glazing; tire repair.

(ii) 1.1 pounds per gallon of adhesive or adhesive primer, excluding water, when used in ceramic tile installation.

(iii) 1.3 pounds per gallon of adhesive or adhesive primer, excluding water, when used with one of the following: cove base installation; indoor floor covering installation.

(iv) 1.4 pounds per gallon of adhesive or adhesive primer, excluding water, when used with waterproof resorcinol glue.

(v) 1.7 pounds per gallon of adhesive or adhesive primer, excluding water, when used with multipurpose construction.

(vi) 2.1 pounds per gallon of adhesive or adhesive primer, excluding water, when used with one of the following: contact bond adhesive; outdoor floor covering installation; motor vehicle adhesive; single-ply roof membrane installation/repair (except ethylene propylenediene monomer(EPDM) roof membrane installation/repair).

(vii) 3.3 pounds per gallon of adhesive or adhesive primer, excluding water, when used with plastic solvent welding (containing acrylonitrile-butadiene-styrene or ABS).

(viii) 4.2 pounds per gallon of adhesive or adhesive primer, excluding water, when used with plastic solvent welding (except ABS).

(ix) 5.5 pounds per gallon of adhesive or adhesive primer, excluding water, when used with perimeter-bonded sheet vinyl (floor covering installation).

(x) 6.3 pounds per gallon of adhesive or adhesive primer, excluding water, when used with motor vehicle weatherstrip adhesive.

(xi) 6.5 pounds per gallon of adhesive or adhesive primer, excluding water, when used with thin metal laminating.

(xii) 7.1 pounds per gallon of adhesive or adhesive primer, excluding water, when used with one of the following: metal to urethane/rubber molding or casting; sheet rubber lining installation.

3. No person shall cause, let, permit, suffer, or allow the emissions of VOC from the use of miscellaneous industrial adhesives with adhesive primer application processes to exceed:

(i) 7.5 pounds per gallon of adhesive or adhesive primer, excluding water, when used as motor vehicle glass bonding primer.

(ii) 5.4 pounds per gallon of adhesive or adhesive primer, excluding water, when used as a plastic solvent welding adhesive primer.

(iii) 2.1 pounds per gallon of adhesive or adhesive primer, excluding water, when used as an adhesive primer for an application process not specified in paragraphs 3.(i) through 3.(ii).

4. All volatile organic compounds containing materials applied by each miscellaneous industrial adhesive application process shall be used in one of the following application methods in conjunction with using low volatile organic compound adhesives or adhesive primers:

(i) Electrostatic spray;

(ii) High Volume-Low Pressure (HVLP) spray;

(iii) Flow coat;

(iv) Roll coat or hand application, including non-spray application methods similar to hand or mechanically-powered caulking gun, brush, or direct hand application;

(v) Dip coat (including electrodeposition);

(vi) Airless spray;

(vii) Air-assisted airless spray; or

(viii) Other adhesive application method capable of achieving a transfer efficiency equivalent to or better than achieved by HVLP spraying.

5. The VOC emission limits and the recommended application methods of this subsection do not apply to the following adhesives and adhesives primer application processes:

(i) Adhesives or adhesive primers being tested or evaluated in any research and development, quality assurance, or analytical laboratory.

- (ii) Adhesives or adhesive primers used in the assembly, repair, or manufacture of aerospace or undersea-based weapon systems.
- (iii) Adhesives or adhesive primers used in medical equipment manufacturing operations.
- (iv) Cyanoacrylate adhesive application processes.
- (v) Aerosol adhesive and aerosol adhesive primer application processes.
- (vi) Processes using polyester bonding putties to assemble fiberglass parts at fiberglass boat manufacturing facilities and at other reinforced plastic composite manufacturing facilities.
- (vii) Processes using adhesives and adhesive primers that are supplied to the manufacturer in containers with a net volume of 16 ounces or less, or a net weight of one pound or less,

The recommended work practice standards specified in this subsection still apply.

6. The emission limits in this subsection shall be achieved by the application of adhesive or adhesive primer where each and every adhesive meets the limit expressed in pounds VOC per gallon of coating, excluding water, stated in paragraphs 1., 2., and 3. of this subsection; or

7. Any miscellaneous industrial adhesive application process subject to this subsection, which chooses to use control equipment for adhesive application processes rather than to comply with the emission limits and requirements established in paragraphs 1., 2., 3., and 4. of this subsection, shall install control equipment with an overall control efficiency of at least 85 percent or use a combination of adhesives and add-on control equipment on an application process to meet limits established in paragraph 1. of this subsection.

8. If an adhesive is used to bond dissimilar substrates together in general adhesive application processes, then the applicable substrate category with the highest volatile organic compounds emission limit shall be established as the limit for such application.

9. For the purpose of this subsection; the following definitions apply:

(i) "Acrylonitrile-butadiene-styrene" or "ABS welding" means any process to weld acrylonitrile-butadiene-styrene pipe.

(ii) "Adhesive" means any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.

(iii) "Adhesive primer" means any product intended by the manufacturer for application to a substrate, prior to the application of an adhesive, to provide a bonding surface.

(iv) "Adhesive primer application process" means any one of the following: motor vehicle glass bonding primer; plastic solvent welding adhesive primer; single-ply roof membrane adhesive primer; other adhesive primer.

(v) "Aerosol adhesive" means an adhesive or adhesive primer packaged as an aerosol product in which the spray mechanism is permanently housed in a non-refillable can designed for handheld application without the need for ancillary hoses or spray equipment.

(vi) "Air-assisted airless spray" means a system that consists of an airless spray gun with a compressed air jet at the gun tip to atomize the adhesive.

(vii) "Airless spray" means the application of an adhesive through an atomizing nozzle at high pressure (1,000 to 6,000 pounds per square inch) by a pump force.

(viii) "Ceramic tile installation adhesive" means any adhesive intended by the manufacturer for use in the installation of ceramic tiles.

(xi) "Contact bond adhesive" means an adhesive that: (1) is designed for application to both surfaces to be bonded together, (2) is allowed to dry before the two surfaces are placed in contact with each other, (3) forms an immediate bond that is impossible, or difficult, to reposition after both adhesive-coated surfaces are placed in contact with each other, and (4) does not need sustained pressure or clamping of surfaces after the adhesive-coated surfaces have been brought together using sufficient momentary pressure to establish full contact between both surfaces. Contact bond adhesive also does not include rubber cements that are primarily intended for use on paper substrates. Contact bond adhesive also does not include vulcanizing fluids that are designed and labeled for tire repair only.

(xii) "Cove base" means a flooring trim unit, generally made of vinyl or rubber, having a concave radius on one edge and a convex radius on the opposite edge that is used in forming a junction between the bottom wall course and the floor or to form an inside corner.

(xiii) "Cove base installation adhesive" means any adhesive intended by the manufacturer to be used for the installation of cove base or wall base on a wall or vertical surface at floor level.

(xiv) "Cyanoacrylate adhesive" means any adhesive with a cyanoacrylate content of at least 95 percent by weight.

(xv) "Dip coating" means application where substrates are dipped into a tank containing the adhesive. The substrates are then withdrawn from the tank and any excess adhesive is allowed to drain.

(xvii) "Electrostatic spray" means application where the adhesive and substrate are oppositely charged.

(xviii) "EPDM roof membrane" means a prefabricated single sheet of elastomeric material composed of ethylene propylenediene monomer (EPDM) and that is field applied to a building roof using one layer or membrane material.

(xix) "Flexible vinyl" means non-rigid polyvinyl chloride plastic with a 5 percent by weight plasticizer content.

(xx) "Flow coating" means conveying the substrate over an enclosed sink where the adhesive is applied at low pressure as the item passes under a series of nozzles.

(xxi) "General adhesive application processes" means the use of adhesive on any one of the following substrates: reinforced plastic composite; flexible vinyl; metal; porous material (except wood); rubber; wood; other substrates.

(xxii) "HVLP" means a system with specialized nozzles that provide better air and fluid flow at lower air pressure, shape spray pattern, and guide high volumes of atomized adhesive particles to the substrate using lower air pressure (10 pounds per square inch or less at the spray cap).

(xxiii) "Indoor floor covering installation adhesive" means any adhesive intended by the manufacturer for use in the installation of wood flooring, carpet, resilient tile, vinyl tile, vinyl backed carpet, resilient sheet and roll or artificial grass. Adhesives used to install ceramic tile and perimeter bonded sheet flooring with vinyl backing onto a non-porous substrate, such as flexible vinyl, are excluded from this category.

(xxv) "Metal to urethane/rubber molding or casting adhesive" means any adhesive intended by the manufacturer to bond metal to high density or elastomeric urethane or molded rubber materials, in heater molding or casting processes, to fabricate products such as rollers for computer printers or other paper handling equipment.

(xxvi) "Miscellaneous industrial adhesive application" means an application process which consists of a series of one or more adhesive applicators and any associated drying area and/or oven wherein an adhesive is applied, dried, and/or cured. An application process ends at the point where the adhesive is dried or cured, or prior to any subsequent application of a different adhesive. It is not necessary for an application process to have an oven or flash-off area.

(xxvii) "Motor vehicle adhesive" means an adhesive, including glass bonding adhesive, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied for the purpose of bonding tow vehicle surfaces together without regard to the substrates involved.

(xxviii) "Motor vehicle glass bonding primer" means a primer, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to a windshield or other glass, or to body openings, to prepare the glass or body opening for the application of glass bonding adhesives or the installation of adhesive bonded glass. Motor vehicle glass bonding primer includes glass bonding/cleaning primers that perform both functions (cleaning and priming of the windshield or other glass, or body openings) prior to the application of adhesive or the installation of adhesive bonded glass.

(xxix) "Motor vehicle weatherstrip adhesive" means an adhesive, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to weatherstripping materials for the purpose of bonding the weatherstrip material to the surface of the vehicle.

(xxx) "Multipurpose construction adhesive" means any adhesive intended by the manufacturer for use in the installation or repair of various construction materials, including but not limited to drywall, subfloor, panel, fiberglass reinforced plastic (FRP), ceiling tile and acoustical tile.

(xxxi) "Outdoor floor covering installation adhesive" means any adhesive intended by the manufacturer for use in the installation of floor covering that is not in an enclosure and that is exposed to ambient weather conditions during normal use.

(xxxii) "Panel installation" means the installation of plywood, pre-decorated hardboard (or tileboard), fiberglass reinforced plastic, and similar pre-decorated or non-decorated panels to studs or solid surfaces using an adhesive formulated for that purpose.

(xxxiii) "Perimeter bonded sheet vinyl installation" means the installation of sheet flooring with vinyl backing onto a nonporous substrate using an adhesive designed to be applied only to a strip of up to four inches wide around the perimeter of the sheet flooring.

(xxxiv) "Plastic solvent welding adhesive" means any adhesive intended by the manufacturer for use to dissolve the surface of plastic to form a bond between mating surfaces.

(xxxv) "Plastic solvent welding adhesive primer" means any primer intended by the manufacturer for use to prepare plastic substrates prior to bonding or welding.

(xxvi) "Plastics" means synthetic materials chemically formed by the polymerization of organic (carbon-based) substances. Plastics are usually compounded with modifiers, extenders, and/or reinforcers and are capable of being molded, extruded, cast into various shapes and films, or drawn into filaments.

(xxxvii) "Porous material" means a substance that has tiny openings, often microscopic, in which fluids may be absorbed or discharged, including, but not limited to, paper and corrugated paperboard. For the purpose of this section, porous material does not include wood.

(xl) "Reinforced plastic composite" means a composite material consisting of plastic reinforced with fibers.

(xli) "Roll coating", "brush coating", and "hand application" means application of high viscosity adhesives onto small surface area.

(xlii) "Rubber" means any natural or manmade rubber substrate, including but not limited to, styrene-butadiene rubber, polychloroprene (neoprene), butyl rubber, nitrile rubber, chlorosulfonated polyethylene and ethylene propylene diene terpolymer.

(xlili) "Sheet rubber lining installation" means the process of applying sheet rubber liners by hand to metal or plastic substrates to protect the underlying substrate from corrosion or abrasion. These operations also include laminating sheet rubber to fabric by hand.

(xliv) "Single-ply roof membrane" means a prefabricated single sheet or rubber, normally ethylene-propylenediene terpolymer, that is field applied to a building roof using one layer of membrane material. For the purposes of this section, single-ply roof membrane does not include membranes prefabricated from ethylene-propylenediene monomer (EPDM).

(xlv) "Single-ply roof membrane installation and repair adhesive" means any adhesive labeled for use in the installation or repair of single-ply roof membrane. Installation includes, as a minimum, attaching the edge of the membrane to the edge of the roof and applying flashings to vents, pipes and ducts that protrude through the membrane. Repair includes gluing the edges of torn membrane together, attaching a patch over a hole and reapplying flashings to vents, pipes or ducts installed through the membrane.

(xlvi) "Single-ply roof membrane adhesive primer" means any primer labeled for use to clean and promote adhesion of the single-ply roof membrane seams or splices prior to bonding.

(xlvii) "Specialty adhesive application processes" means any one of the following: ceramic tile installation; contact bond adhesive; cove base installation; floor covering installation (indoor); floor covering installation (outdoor); floor covering installation (perimeter bonded sheet vinyl);

metal to urethane/rubber molding or casting; motor vehicle adhesive; motor vehicle weatherstrip adhesive; multipurpose construction; plastic solvent welding (ABS); plastic solvent welding (except ABS); sheet rubber lining installation; single-ply roof membrane installation/repair (except EPDM); structural glazing; thin metal laminating; tire repair; and waterproof resorcinol glue.

(xlviii) "Structural glazing" means a process that includes the application of adhesive to bond glass, ceramic, metal, stone or composite panels to exterior building frames.

(xlix) "Thin metal laminating adhesive" means any adhesive intended by the manufacturer for use in bonding multiple layers of metal to metal or metal to plastic in the production of electronic or magnetic components in which the thickness of the bond line(s) is less than 0.25 millimeters.

(l) "Tire repair" means a process that includes expanding a hole, tear, fissure or blemish in a tire casing by grinding or gouging, applying adhesive and filling the hole or crevice with rubber.

(li) "Waterproof resorcinol glue" means a 2-part resorcinol-resin-based adhesive designed for applications where the bond line must be resistant to conditions of continuous immersion in fresh or salt water.

10. Applicability: On and after January 1, 2015, the requirements of this Subparagraph (yyy) shall apply:

(i) to facilities at which the actual emissions of volatile organic compounds from all miscellaneous industrial adhesive application processes at a facility equal or exceed 2.7 tons per 12-month rolling period for facilities located in Barrow, Bartow, Carroll, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Hall, Henry, Newton, Paulding, Rockdale, Spalding, and Walton counties;

(ii) the facility is not subject to Georgia Rules 391-3-1-.02(2)(t), (u), (v), (w), (x), (y), (z), (jj), (ll), (mm), (ddd), or (kkk); and

(iii) any physical or operational changes that are necessary to comply with the provisions specified in this subparagraph are subject to the compliance schedule specified in Subparagraph 12.

Prior to January 1, 2015, facilities that meet the applicability provisions of subparagraphs 10.(i) and (ii) shall comply with the provisions of Subparagraph 391-3-1-.02(2)(tt), if applicable.

11. Applicability: The requirements of this Subparagraph (yyy) will no longer be applicable by the compliance deadlines if the counties specified in subparagraph 10. are re-designated to attainment for the 1997 National Ambient Air Quality Standard for ozone prior to January 1, 2015. In the event the 1997 National Ambient Air Quality Standard for ozone is violated in the specified counties, the requirements of this Subparagraph (yyy) will only be reinstated if the Director determines that the measure is necessary to meet the requirements of the contingency plan.

12. Compliance Schedule:

(i) An application for a permit to construct and operate volatile organic compound emission control systems and/or modifications of process and/or coatings used must be submitted to the Division no later than **July 1, 2014**.

(ii) On-site of construction of emission control systems and/or modification of process or coatings must be completed by **November 1, 2014**.

(iii) Full compliance with the applicable requirements specified in this Subparagraph (yyy) must be completed before **January 1, 2015**.